

Abstract

Novel roof bolt bearing plate and method are disclosed for use in underground mining operations. A dome-shaped roof bolt bearing plate and method supports the roof in a mine. The novel bearing plate is round or elliptical and characterized and distinguished by important safety integrity features different from conventional commercial roof support devices. No dangerous edges and corners protrude downward. A recessed center is lower than the outer rim. A thin outer rim conforms to roof irregularities. The novel roof bolt bearing plate and method have been found to provide important advantages over conventional commercial roof support devices, including (1) concealing the head of the roof bolt to a preferred degree, (2) conforming to the roof's irregularities which will cause the plate to remain tight, (3) readability so the installer can determine the quality and integrity of installation and anchorage, and (4) compressing the lower strata and creating a beam support for the upper layers of roof.